What makes scientific communities think the preservation of their heritage is important?

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Abstract

The aim of this paper is to analyse the various role that were conferred to university collections and museums within the University Louis Pasteur of Strasbourg for the last thirty years. This reflection is at the crossroad of four major phenomena that occurred quite at the same period: the broadening of heritage concern, the building of scientific and technical culture of science, the entering into the era of communication, the rising concern of universities to be recognised as a cultural actor. All these phenomena participated at different level and in a different way to give a new role to university collections and museums and still do. Meanwhile, they are also various expressions of the dramatic changes to which French universities are confronted to since the late 1980s: for instance, disengagement of the State, rising of international competition, the praise of techno-scientific value of knowledge versus fundamental research, the rising concern of public opinion towards scientific research and their applications, the change of social position of academics within the political area. Thus university collections and museums participated to the numerous questionings university was confronted to toward its future. However, going with those changes, doesn't assure that university collections and museum are to be given a role once the change has occurred. Even if they are, what that role should be?

Fig. 1 - Scales “de Cotton” © C. Meninger – SRI Alsace – UDS

Introduction

Within scientific communities commemoration is a regular process, but those that emerged in France in the 1980s were different in many ways (ABIR-AM & CLARK 1999).

First of all, they were publicised by using strong communication tools, involving various media. Secondly, they did not concern one institution or one discipline in particular but most of the French research institutions; the entire scientific community was involved in this collective celebration of science. Last but not least, most of these commemorations came together with a strong concern with the preservation of material heritage: paper archives, instruments, buildings, scientific collections. This specific concern about material heritage was certainly reinforced by the development of a research field named Science Technology and Society (STS) more interested by social understanding of science than scientific knowledge itself. Researchers in that field needed new kind of historical material rather than books and printed

papers (BOUDIA 2002).

It is this increased concern within the scientific community for heritage preservation that I would like to discuss in this presentation. How was this heritage process put in place? By whom? What was at stake? Was it successful? What was the impact on university collections and museums? To study these points I will focus on the University Louis Pasteur of Strasbourg.

Fig. 2 - Models of flowers © B. Braesch – UDS

To start with I would like to make some general points about the global frame in which heritage concern appeared within scientific institution during the 1980s.

Firstly, this heritage concern, together with the commemorative "fever", is not specific to the scientific field. The late 1970s and the 1980s are indeed characterized by a strong development of concern for heritage in various academic fields, as well as in other areas such as rural heritage and industrial heritage. In that sense it was a national process.

Secondly, science faced strong changes during the 1980s in its governance, actors, legitimacy, so that its place in society changed strongly. To get to the point quickly, the model that existed since the Second World War and for some aspects, since the late 19th century, seemed to be over: the end of the Welfare State implied less public money; the emergence of new scientific disciplines led to a new hierarchy between scientific disciplines (molecular biology, computing sciences instead of physics for instance); very innovative short term research processes with only short term economic impacts; brought about a "deep" crisis of confidence toward science (LÉVY-LEBLOND 1995).

Thirdly, these deep changes drove the scientists to be more involved in communication to the public. The new communicating society that emerged at that time, reinforced this need, as well as providing new tools for mass communication (FAYARD 1988).

Finally, entering cultural arena was also seen as a mean to re-establish a dialogue with general public. This started during the 1970s but strongly developed in the 1980s with strong support of the State, so that scientific and technical culture emerged as an answer to the urgent need to re-open the debate between science and society (BERGERON 2000).

Thus commemoration, communication, scientific and technical culture testified not only to the deep changes that occurred within scientific institution and their roles within society but appeared also as tools to adapt to these changes. All three contributed to the setting of scientific heritage preservation plans, though in a very different way, with different objectives that sometimes led to tensions.

I would like now turn to the example of Strasbourg and analyse the various events that helped the "production" of scientific heritage and gave historical objects a value to scientists.

Heritage preservation is a commemorative act, acte mémoriel

At the beginning of the 1980s, scientists of the University Louis Pasteur of Strasbourg, often physicists, usually retired or about to be, undertook to preserve various scientific instruments of the University. In 1982, they created an association called AMUSS, Association for Science Museums in Strasbourg. Their goal was “to valorise and animate existing scientific museums and collections and to create a Museum of science and technology in Strasbourg”[1]. The University Louis Pasteur already had two university museums: a museum of zoology managed both by the city of Strasbourg and the University, and a museum of mineralogy. It also had a botanical garden open daily to the public. All three were built by the Germans at the end of the 19th century. In addition various scientific collections were also exhibited in showcases in various departments of the University (for instance, collections of anatomy or palaeontology[2]).

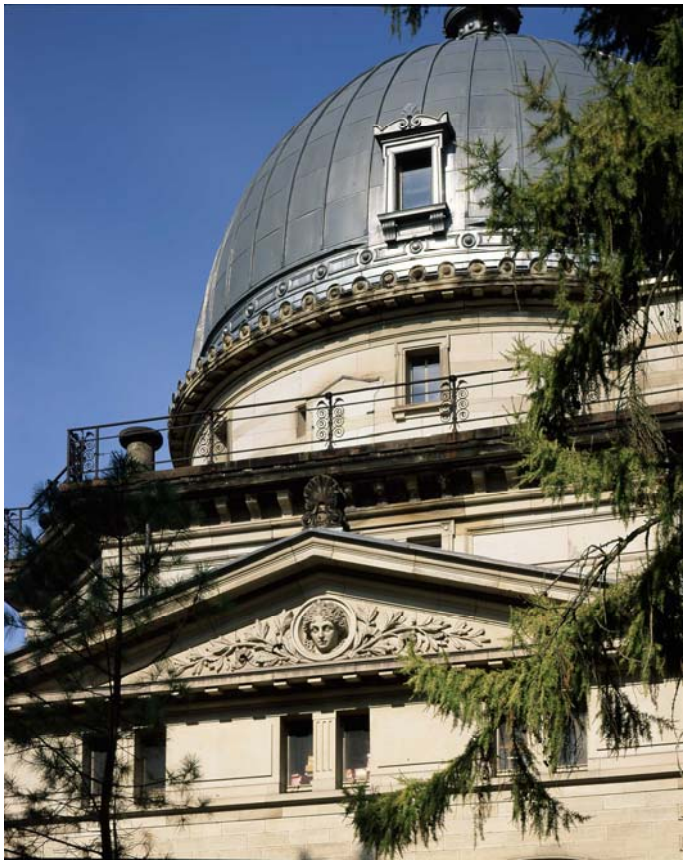

Fig. 3 - Big cupola of Strasbourg observatory © C. Meninger – SRI Alsace – UDS

The main preoccupation of the AMUSS’s members was the preservation of obsolete scientific instruments by organising systematic collections. Their actions eventually led to various achievements, the main one is certainly the saving of scientific instruments in fields such as physics, chemistry and physiology. They managed also to create few showcases within the university mostly in Physics Department, and developed exhibitions in which scientific instruments were displayed.

Many events helped setting up this "organised" preservation of scientific instruments led by the AMUSS. One was the numerous moves of physics laboratories planned at that time which raised concern about what should be done with the old stuff; another was the celebration of various centenary anniversaries: for instance, the 100th years of the Institute of physics, of the astronomical observatory, the 500th anniversary of the University which certainly reinforced the commitment of the scientists to their history and indeed gave opportunities to write it (Sciences en Alsace 1989). Other successful projects developed by scientists within the university that testify of a general concern for the preservation of heritage include the building in 1986 of an exhibition area within the astronomical observatory; the strong commitment of physicians who created an association in order to preserve the medical instrument heritage of the hospital of Strasbourg; and the opening in 1996 of the museum of seismology and terrestrial magnetism within the historical seismological station of the university.

Thus, new kinds of collections and museums were created within the university, mainly collections of scientific instruments, as well as those used for teaching and research. They were created by

[1] http://misha1.u-strasbg.fr/AMUSS/assos1.htm (accessed November 26, 2008).
[2] For a general presentation of the university collections and museums of the universities of Strasbourg see: http://collections.u-strasbg.fr/ (accessed November 26, 2008).

individuals who worked with or without the acknowledgment of their peers and some even established an association in order to legitimate their action and make it more visible within their institution. These plans for heritage preservation within scientific institution usually emerged when changes such as the closure or the moving of a laboratory, the retirement or death of a major figure, or more profound changes like mutation within scientific disciplines occurred. The process often went hand in hand with the writing of self-history.

However outwardly efficient this process appeared and however strong the commitment of scientists it did not take place without many tensions. Heritage is attached to the past when science should rather be driven by future and innovation. Consequently, to understand the viability or non viability of heritage preservation within scientific institutions, one has to consider the other imperatives defined by scientific institutions at the same time.

Using scientific heritage to develop scientific and technical culture

The 1980s and the 1990s were strongly characterized by the development of scientific and technical culture in France. IT was sustained by two laws: (i) the law of orientation and planning for research and technological development (circa 1982) which inscribed the diffusion of scientific knowledge as part of the mission of the researcher, and (ii) the law that stated the diffusion of scientific culture and information as a mission of universities (circa 1984).

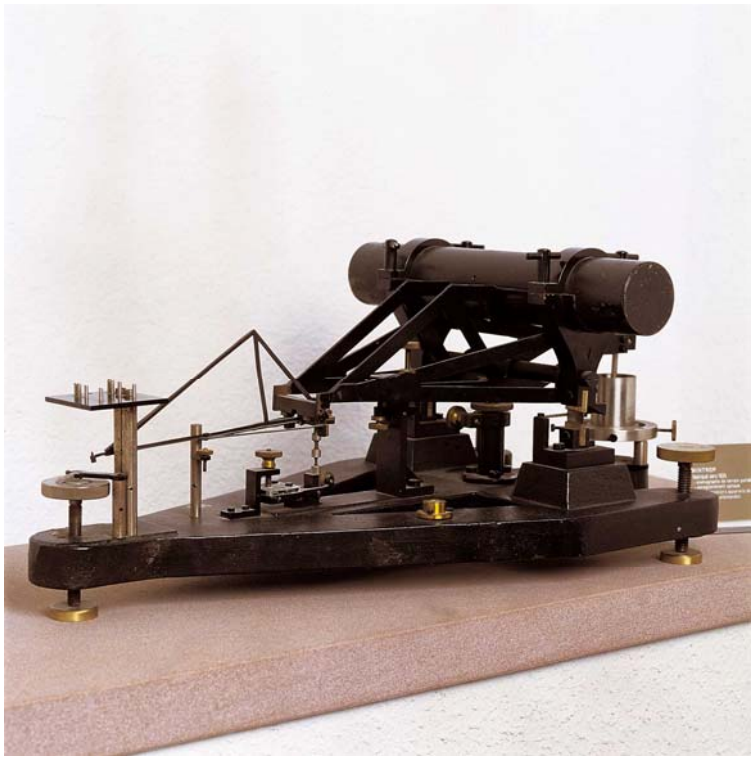

Fig. 4 - Seismometre Mintrop © B. Braesch – UDS

Many scientists within the University of Strasbourg were strongly involved in the development of a scientific and technical culture before the laws of 1982 and 1984 made it official. The main testimony of this early involvement is certainly the building of the planetarium in 1981, the first university planetarium created in France. Moreover, two research laboratories in social sciences were also involved in the definition of objectives and means for the development of a policy for scientific and technical culture.

The relationship of these various actors led to the creation at the end of the 1980s of the concept of *Jardin des sciences*, garden of science. The aim was to “create a place of communication, dialogue and exchange between academics and the general public“ (Proceeding 1990: 11). The three main missions were: firstly, the diffusion and animation of scientific and technical culture; secondly, the preservation and “valorisation of scientific and technical heritage of Strasbourg and its area“; and thirdly, the development of history of science researches linked to the creation of “a regional conservatory for scientific archives [maybe a scientific archive for the region?]“ (Proceeding 1990: 11-12). The Jardin des Sciences was eventually created in 1989 and took the administrative statute of an association directed both by the University Louis Pasteur and the City of Strasbourg. Funds were

provided by state and regional councils for four years. However, this association was later dissolved, "because of tension between its various actors and the limited impact of its actions: there was not a real strategic understanding of its role and it only provided funds for local structures with no common activities" (MÉRINDOL 2004).

Nonetheless, the idea of Jardin des Siences remained and a new project emerged at the end of the 1990s. In 1998, the Mission Culture scientifique et technique was created, to set up a new ambitious project. A study of feasibility was asked to the Cité des Sciences et de l'industrie in Paris, which wrote an orientation note in August 1999. The main idea of coordinating the activities of the various structures of the university involved in the diffusion of scientific culture was kept. However, in future, the Jardin des Sciences should be supported by a science centre. This flagship should be built within the Institute of Zoology, which included at that time both research laboratories and the museum. This institute should be renovated in order to build a new museum "with a new museography, […] using collections but also integrating hands on apparatus, space for debate and presentation of science in the making, in order to question the impact of new scientific discoveries on society" (MÉRINDOL 2004; *Jardin des science*s 2002). The role of heritage and the role of museum were rethought, modified, renovated, even rebuilt, on the one hand, to "give Strasbourg a proper equipment for public understanding of science", on the other hand to offer a showcase of the scientific researches pursued at the university. The chief executive officer [or leader/] of the project, who previously worked at the Cité des Sciences, underlined

Fig. 5 - Seismometre Wiechert © B. Braesch – UDS

> "the gap between what the university museum show[s] and the scientific skills within the university. The researchers do not find a place to express themselves within the university museums. In other words, the equipment that should be put in place should take into account the questions that sustain scientific research in Strasbourg and inform the general public: especially in research field like molecular biology and sciences of the matter" (Strasbourg magazine 2002: 17).

This strong claim on the development of scientific culture based on a science centre model rather than on a traditional museum of science with collections caused lots of tensions that slowed the development of the project. Though many reasons can be named, it is interesting to note that part of the tensions were due to a questioned compatibility of such a renovation with the preservation of the collections, especially the one of zoology. More broadly, this example questioned the ambiguous relationship of a scientific institution with its heritage.

Fig. 6 - Coral aragonite © B. Braesch – UDS

We have many examples in France in which scientific and technical culture policies and actions quickly become detached from heritage preservation. One of the most striking examples of this divorce is certainly the building of the Cité des Sciences et de l'industrie. The final project gave little place to scientific collections and heritage even if many scientific instruments were collected and storage built at the first step, despite the involvement of historians of science and technology and the creation of a department of history of science attached to the new centre. The only remaining heritage item left is the submarine which is still in the park. The astronomical telescope of Paris observatory, "la grande lunette coudée", which was also supposed to be in the park, was not as lucky and stayed for many years under the ring road next but outside the storage.

This unfinished or intermittent mobilisation of heritage, carried by the development of the diffusion of scientific and technical culture, is further well illustrated in Strasbourg. The story of the Jardin des Sciences, still in the writing, underlines several elements that allow us to better understand the heritage preservation process during the eighties and the nineties. Especially, it highlights the ambiguous relationship between developing a scientific culture and preserving scientific heritage. These aims emerged at the same time, were built on one another, mutually mobilised the other to find legitimacy and obtain funds. However, this common development reached its boundaries quite quickly, and scientific culture kept its distance with heritage in order to promote innovative science, dynamic and attractive.

Fig. 7 - Wheatstone's Bridge with thread © C. Meninger – SRI Alsace – UDS

Conclusion

The position of a place for heritage within scientific institutions is not an obvious one, even though museum structures already exist, and despite a deeper reflection on the role of the status of the university and science within society. The act of preservation is not enough in itself; on the contrary, its legitimacy is strongly connected to other stakes. Thus if heritage was regularly mobilised from the

1980s to built scientific culture, it was also as regularly excluded. Is of the use of the heritage process engaged by scientists expressed by this perpetual re-invention?

This ceaseless fluctuation of the use of heritage, and the goal that sustain heritage preservation, certainly make scientific heritage different from the other kinds of heritage. The other types of heritage are more genuinely accepted by their professionals. In other words, if the heritage process is not excluded from scientific institutions, long term heritage preservation policy, which necessarily include rules as regard its management and other characteristics, is yet to find a legitimacy, or even to make sense to many scientific institutions.

Fig. 8 - Armadillo © B. Braesch – UDS

Today, scientific heritage benefites from the strong interest in university heritage that emerged over the last five years. University heritage became a new key for scientists to open cultural space and establish a new dialogue with the city. The Jardin des Sciences concept expresses both this strong concern about university heritage preservation - including humanities collections such as archaeology, egyptology or ethnology - and a urge need to offer open space and events where science is debated, displayed or even taught to the public. Vigorous discussions are currently going on to find out how to mix these two areas without having one of them excluding the other. I am convinced that only by finding the right equilibrium between those two objectives will it be possible to achieve both.

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